REMARKS

Claims 24-26, 28-37, 79-82, 85-95, 99-103, 107-110, 112-118, 122-124, 127-135, 139 and 140 were examined in the outstanding final office action mailed on 08/21/2007 (hereafter "Outstanding Office Action"). All the claims were rejected.

By virtue of this paper, claims 24, 28-32, 79-82, 85, 93, 95, 99, 103, 107, 110, 112-116, 118, 122-124, 127, 135, 139, and 140 are sought to be amended, claims 142-143 are sought to be added, and claims 130- 134 are sought to be canceled. The amendments, additions and cancellations are believed not to introduce new matter and their entry is respectfully requested. The amendments, additions and cancellations are made without prejudice or disclaimer.

Claims 24-26, 28-37, 79-82, 85-95, 99-103, 107-110, 112-118, 122-124, 127-128, 135, 139 and 140 are thus respectfully presented for consideration further in view of the below remarks.

Telephone Conversation

It is noted that the undesigned representative had called Examiner Wilson on 18 October 2007 to schedule a telephone interview at a mutually convenient time. The Examiner was kind enough to quickly note the objections/rejections of record and various options.

The undesigned representative neither agreed nor disagreed with the Examiner as the purpose of the call was to schedule a telephone interview at a mutually convenient time.

As the conversation progressed, the undesigned representative respectfully requested the Examiner for a convenient time to call back to address the outstanding rejections orally.

The Examiner indicated that the telephone conversation was an official telephone interview and that it was complete.

The undesigned representative noted that a chance was not presented to clarify the

details that would assist in proper resolution of the various outstanding rejections. The undesigned representative then requested an interview at least after providing a proposed amendment/response, further noting that the Applicant wishes to file an RCE should it be clear that prosecution will be advanced.

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The Examiner agreed to consider the proposal. The Interview Summary from the Examiner followed on 22 October 2007, which required that only a formal response be submitted. This formal response accordingly follows.

10   The undesigned representative regrets and apologizes for the confusion caused, and also thanks the Examiner for the detailed examination and the opportunity presented for the conversation.

The undesigned representative further notes that the pending claims have been
15   reviewed to appreciate the sources of disagreement/rejections, and amendments are sought to be effected to address the sources (as best understood). Further, the Applicants also seek to provide a overview of the technology below, which is believed to clarify several points.

It is sincerely believed that prosecution will be advanced in view of the amendments
20   as well as the below overview sought to be provided in this paper.

The applicant is believed to have met the burden of making of record the Substance of the Interview. The Examiner is also thanked for sending a duly completed Interview Summary form PTOL 413, and is again invited to contact the undesigned representative
25   should a telephone interview be felt to be helpful to advance prosecution.

Overview of the Subject Matter of the Application

Merely for the benefit of the Examiner and to further prosecution, Applicants explain some of the claimed features with reference to an example. For illustration it is
30   assumed that edge router 120 of Figure 1 sends a single signaling message to switch 130 requesting that 100 virtual circuits be set up to edge router 160.

For simplicity, we assume two cases: (C1) all of switches 130/140 and edge router 160 support setting up of the requested 100 virtual circuits in response to a single signaling message; and (C2) switch 140 does not support setting up of multiple virtual circuits in response to a single signaling message.

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In case C1, edge router 120 eventually receives an acceptance message from switch 130 indicating that all the 100 virtual circuits have been accepted by all the switches (130, 140 and 160) in the path. Fewer than all the accepted virtual circuits may be provisioned. In the described embodiment, only a single virtual circuit is provisioned by switches 130/140/160.

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Edge router 120 can thereafter request each of the accepted virtual circuits to be provisioned as and when require.

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The specific virtual circuits which have been accepted, but not yet provisioned are referred to as 'not-yet-provisioned virtual circuits'. Thus, when the acceptance message is received with only a single virtual circuit being provisioned, there are 99 not-yet-provisioned virtual circuits. Assuming edge router requests one more of the accepted virtual circuits to be provisioned and such virtual circuit is provisioned, there would be 98 not-yet-provisioned virtual circuits.

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In case C2, edge router 120 would receive an acceptance message indicating that only a single virtual circuit has been provisioned and accepted.

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From the above, it may be appreciated that the virtual circuits once accepted may be in an inactive state (corresponding to the 'not-yet-provisioned' state noted above) or provisioned (active) state. When in inactive status, the virtual circuit cannot be used for transporting ATM cells. Only when a virtual circuit is provisioned, is it available for transferring ATM cells, as is well understood in the relevant arts.

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It is further noted that the absence of ATM cells for transfer on a virtual circuit would

not determine/alter the status of a virtual circuit. In other words, a provisioned/activated virtual circuit is ready for transmission of corresponding ATM cells.

In the case of C1 above, when an acceptance message is received for 100 virtual circuits but with only one virtual circuit being provisioned, there would be 99 inactive (not-yet-provisioned virtual circuits) virtual circuits and 1 active/provisioned circuit. As more of the inactive virtual circuits are activated, there would be correspondingly more provisioned/active virtual circuits and fewer inactive virtual circuits.

In view of the various rejections, the claims are amended/presented consistent with the terminology that there are <u>accepted virtual circuits (which can be either provisioned/ active or inactive), provisioned virtual circuits and inactive virtual circuits</u>. The term 'not-yet provisioned virtual circuits' is removed from the claims in view of the confusion alleged by the Examiner.

The Examiner appears to have questions on the enabling disclosure for case C2 and accordingly that aspect is addressed now.

An aspect of the invention takes advantage of non-mandatory information elements. While mandatory information elements must be processed by each switch, non-mandatory information elements can be ignored by the switches when the information therein is not understood/recognised by a switch.

The concept of mandatory and non-mandatory information elements in signaling messages in ATM networks is well known in the relevant arts, for example, as evidenced by the UNI specification relied upon by the Examiner in rejecting various claims.

Accordingly, in a described embodiment, edge router 120 would construct the single signaling message (noted above) with a conventional (see lines 5-6 of page 16 of the specification) mandatory information element requesting one virtual circuit to be set up and one or more (new) non-mandatory information elements requesting the remaining 99 virtual

circuits. This single signaling message is sent to switch 130, as noted above.

Switch 130 would semantically propagate all the information elements (lines 11-12 on page 16 of the specification) in the single signaling message to switch 140 (which does not support setting up of multiple virtual circuits in response to the single signaling message).

The general operation of switch 140 is described in lines 6-10 of page 17 of the specification. If switch 140 is not designed to support setting up of multiple virtual circuits in response to a single signaling message, switch 140 would ignore the non-mandatory information elements of the single signaling message and accept the single virtual circuit requested in the mandatory information element.

Switch 140 would thus send an acceptance message indicating that only a single virtual circuit is accepted and provisioned in case any switch in the path between the two edge routers does not support setting up of multiple virtual circuits in response to a single signaling message. This acceptance message is then again semantically propagated back to edge router 120 (lines 8-10 of page 17 of the specification) in case C2 noted above.

The above explanation is believed to adequately provide the enabling disclosure requested by the Examiner for case C2 noted above.

Claim Rejections - 35 U.S.C. § 112, Second Paragraph

Claims 28-29, 31-37, 79, 80-82, 85-95, 97, 99-103, 105, 107-109, 112-113, 115-117, 118, 122-124, and 127-140 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is first respectfully noted that claims 97, 105, and 137 noted above, have been canceled in the previous response filed on 6 July 2007.

It is believed that the Overview section of above clarifies several of the remaining

outstanding rejections. The specific rejections are again addressed below.

With respect to claims 28, 81, 112 and 124, it was stated:

> ... what is meant by "wherein said second information
> element comprises a non-mandatory information element according
> to a specification" ? First how can one tell the metes and bounds
> of the claim if one does not know which specification? Secondly
> applicant's specification never clearly defines what the
> difference between the second information element are compared
> to the specification.
> (Lines 9-13 on page 2 of the Outstanding Office Action)
> The examiner respectively disagrees with the applicant
> argument that one of ordinary skill in the art should be required
> to determine which are mandatory and non-mandatory information
> elements. The applicant has argued that the NNI and UNI are just
> examples of specifications which define the mandatory and
> non-mandatory information elements. Applicant's own admission is
> that this is not the total list of specifications which apply to
> defining the mandatory and non-mandatory information items;
> consequently, applicant's representative admits that they do not
> know the metes and bounds of the claims language.
> (Page 24, lines 25-End of the Outstanding Office Action)

It is believed that the Over view of above addresses the rejection. Nevertheless, in the interest of furthering prosecution, the following further remarks are offered.

In the present paper, each of the claims is sought to be amended to recite that the specification is a "signaling specification ... used for signaling in said ATM network". Thus the recited specification is a signaling specification for ATM networks. In addition, the specification is one which provides for the claimed non-mandatory information elements.

Therefore, one skilled in the relevant skilled in the relevant arts would be able to identify which specifications are covered by claim 28, 81, 112 and 123, and which specifications are not.

The Examiner's insistence on further amendments or clarifications based on 35 U.S.C. § 112, second paragraph, is contrary to well-established legal precedents. The claimed signaling specifications have sufficient metes and bounds according to these precedents and would cover several signaling specifications consistent with the claimed mandatory and non-mandatory information elements.

Any further amendments to the claims would narrow the protection afforded to the Applicant, and accordingly the Examiner is respectfully requested to withdraw the rejection.

Withdrawal of the rejection under 35 U.S.C. § 112, second paragraph, with respect to claims 28, 81, 112 and 124 is respectfully requested.

With respect to claims 29, 82 and 113 it was stated:

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       ...  ;  what  is  meant  by  "wherein  said  specification
comprises one of a user to network interface (UNI) or network to
network interface (NNI) ? How can one tell the metes and bounds
of the claim if one does not know what the difference between the
second  information  element  are  compared  to  the  UNI  or  NNI
specification? Is applicant trying to say that the UNI and NNI
only  specifies  setting  up  a  single  virtual  circuit  versus  a
bundled plurality of virtual circuits at a time?
(Lines 14-19 on page 2 of the Outstanding Office Action)
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As noted above, UNI and NNI are example signaling specifications, which are extended (e.g., by including non-mandatory information elements) to provide some of the features of the present invention. Accordingly, UNI and NNI according to claims 29, 82 and 113 are comprised in the specification recited in the respective base claims.

The second information element is supported by the non-mandatory elements described in the specification.

It is further noted that claims 29, 82 and 113 are presented at least for the well-established concept of 'claim differentiation', which would lead to an interpretation that the corresponding base claims 28, 81 and 112 are not limited to UNI and NNI. Again, this principle is supported by well established legal precedents.

Withdrawal of the rejection under 35 U.S.C. § 112, second paragraph, with respect to claims 29, 82 and 113 is respectfully requested.

With respect to claim 31, it was stated that:

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       Referring  to  claim  31,  what  is  meant  by  "immediately
provision fewer than said plurality of virtual circuits"? Are
circuits provisioned when they are set up in the table or when
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        traffic is running over the circuits?
             What is meant by "not-as yet provisioned circuits" ?
        "not-as yet provisioned circuits is confusing to the reader of
        the claim language. Applicant specification teaches that the a
5       plurality of virtual circuits are requested, the total is
        Acknowledged and setup stored in a table, and second type
        requests are made to use the circuits setup in the tables and an
        second type of acknowledgment is received, "not-as yet
        provisioned" is confusing to the reader and therefore indefinite
10      (Lines 20-28 of page 2 of the Outstanding Office Action)
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The Overview of above and the amendments (removing the term "not-yet provisioned circuits" from the claims and using the term "set of inactive virtual circuits") are believed to render the rejection moot.

In summary, it is noted that the set up virtual circuits can be either in active (provisioned) state or inactive state. Traffic can only run on active virtual circuits. The absence of traffic does not change provisioned state of the virtual circuit.

Withdrawal of the rejection under 35 U.S.C. § 112, second paragraph, with respect to claim 31 is respectfully requested.

Withdrawal of the rejection under 35 U.S.C. § 112, second paragraph, with respect to claims 79, 95, 99, 107, 115, 118, 122, 135 and 139 is respectfully requested for similar reasons.

All the rejections under 35 U.S.C. § 112, second paragraph, are thus believed to be overcome.

Claim Rejections - 35 U.S.C. § 112, First Paragraph

Claims 24-26, 28-37, 80-82, 110, 112-117, and 123-124 were rejected under 35 U.S.C. 112, first paragraph, allegedly as failing to comply with the enablement requirement.

The rejections are believed to be addressed by the foregoing remarks and amendments to the claims. Withdrawal of the rejections under 35 U.S.C. § 112, first paragraph, is respectfully requested.

Claim Rejections Under 35 U.S.C. § 102

Claims 24, 30-35, 79-80, 85-91, 95, 97, 99-103, 105, 107-110, 114-118, 120, 122-123, 127-131, 135, 137,139 and 140 re rejected under 35 U.S.C. 102(e) as being anticipated by Gupta (U.S. Patent No.: 6,278,714). The claims, at least as amended, are believed to be allowable over Gupta.

For example, currently amended claim 24 recites that a single signaling message requesting multiple virtual circuits to be set up is sent, and an acceptance message is received indicating that only a single virtual circuit is set up if any of the switches in a connection path is designed not to support setting up of the requested multiple virtual circuits.

The claim expressly recites that, "... said first acceptance message is received in response to sending said first signaling message to said second end system". The portions of Gupta relied upon in the Outstanding Office Action does not satisfy this recitation as explained below.

The Examiner relies on Figures 7A, 7B, 7C and Col. 8 lines 9 to 49 of Gupta to teach the claimed first/single signaling message (page 6 lines 7-10 of the Outstanding Office Action), and then relies on the disclosure of col. 7 lines 1-8 of Gupta to teach the claimed acceptance message (page 6 lines 23-27 of the Outstanding Office Action).

Indeed there is no disclosure or suggestion in Gupta that the acceptance message in col. 7 lines 1-8 of Gupta is received in response to sending the messages described in Figures 7A, 7B, 7C and Col. 8 lines 9 to 49 of Gupta.

Indeed, Gupta does not appear to contemplate a situation when the switches in a connection path are not designed to provision multiple virtual circuits in response to the requests in the packet formats of Figures 7A, 7B and 7C of Gupta.

Should the Examiner disagree with the above assertions, it is respectfully requested that specific portions of Gupta forming the basis for the disagreement be explicitly pointed

out in the next Office Action.

Currently amended claim 24 is accordingly allowable over Gupta. Claims 25-26 and 28-37 depend from claim 24, and are thus allowable at least for the reasons noted above with respect to claim 24.

Currently amended claim 28 is independently allowable over the art of record in reciting that the first information element (which requests set up of one virtual circuit according to claim 1) comprises a mandatory information element and the second information (which requests set up of additional virtual circuit(s) in claim 1) is a non-mandatory information element.

As a threshold matter, it is asserted that while the UNI specification teaches the mandatory and non-mandatory elements in general, there is no motivation (or knowledge in the art) established that these types of elements can be applied in the context of setting up multiple virtual circuits using a single signaling message as claimed.

The Examiner merely uses impermissible hindsight gleaned only from the Applicant's disclosure in combining the UNI specification with Gupta as in the claimed invention.

In particular, it is asserted that the idea of using the first and second information elements with the properties recited in claim 1 as noted above, is not disclosed or reasonably suggested by the art of record.

Currently amended claim 30 is independently allowable over the art of record in reciting that the "... receiving a second acceptance message also as a single message." In sharp contrast, the Examiner had equated the second acceptance message to "multiple ACKs" (see last 2 lines of page 6 of the Outstanding Office Action).

For the benefit of the Examiner, it is also noted that the 'first acceptance message' of claim 24 relates to a situation when at least one of the switches in the communication path

does not support setting up of multiple virtual circuits in response to a single signaling message, and the 'second acceptance message' of claim 31 if all the switches in the communication have such capability.

5   Currently amended claim 31 is also independently allowable over Gupta in reciting that only some of the multiple virtual circuits requested in the single signaling message are provisioned, while the remaining virtual circuits are inactive. The claim recites that another signaling message is sent to activate one of the inactive virtual circuits.

10   As noted above in the Overview section, activation completes the provisioning of the virtual circuit previously set up. Once activated/provisioned, then only the virtual circuit is available for transferring traffic. The absence of traffic for transferring, does not change the provisioned/active state.

15   Currently amended claim 31 is accordingly allowable over the art of record.

          It is now asserted currently amended claim 79 is allowable over Gupta. Currently amended claim 79 recites, among other features, "... wherein the specific ones of said plurality of virtual circuits accepted but not provisioned form a set of <u>inactive virtual circuits</u>
20   <u>which cannot be used</u>; and sending a <u>second signaling message</u> to complete provisioning of at least one of set of inactive virtual circuits." (<u>Emphasis Added</u>)

          Thus, in accordance with claim 79, the single signaling message causes set up of one or more inactive virtual circuits that cannot be used. In sharp contrast, the virtual circuits of
25   Gupta are all provisioned in response to the message request there, and all the virtual circuits there are ready for use, even if there is no traffic.

          Furthermore, in accordance with currently amended claim 79, a second <u>signaling</u> message is sent to activate (and thus provision) at least some of the inactive virtual circuits.

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          Even assuming arguendo that equating the virtual circuits of Gupta without traffic to

the claimed inactive virtual circuits is proper, it is respectfully noted that such virtual circuits of would become active (according to the interpretation of the examiner) when data traffic is transferred on the circuit, but <u>not when a signaling message is sent</u> (as claimed).

5   Currently amended claim 79 is allowable over Gupta at least for one of the reasons noted above.

          Currently amended claim 122 is also allowable over Gupta at least for some of similar reasons. Claims 80-82, and 85-94 depend from claim 79 and are allowable at least for reasons
10   noted above with respect to claim 79. Claims 123-124 and 127-134 depend from claim122 and are also allowable for similar reasons.

          Currently amended claim 80 is independently allowable over Gupta in reciting, "... said acceptance message is received ... <u>in response to said single signaling message</u>".
15   (<u>Emphasis Added</u>).

          For reasons noted above with respect to claim 24, col. 7 lines 1-8 of Gupta relied upon by the Examiner do not satisfy the emphasized feature of claim 80.

20   For the benefit of the Examiner, in reference to claim 80, it is also noted that the 'another acceptance message' of claim 80 relates to a situation when at least one of the switches in the communication path does not support setting up of multiple virtual circuits in response to a single signaling message, and the 'acceptance message' of claim 79 if all the switches in the communication have such capability.

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          Claim 85 is also allowable independently over the art of record at least in reciting that, "... only one virtual circuit is provisioned in response to said single signaling message even when said plurality of switches have set up said plurality of virtual circuits in response to said single signaling message...." In other words, the remaining virtual circuits are left for later
30   activation.

Such a feature is not disclosed or reasonably suggested by Gupta for reasons noted above.

Currently amended claim 95 is allowable Gupta for reasons noted above at least in reciting, "... sending an acceptance message as a response to said single signaling request, said acceptance message <u>indicating that said plurality of virtual circuits are set up</u> if said plurality of virtual circuits can be set up between said device and said second ATM switch in response to said single signaling request alone; and provisioning fewer than said plurality of virtual circuits to said second ATM switch before performing said sending, wherein the specific ones of said plurality of virtual circuits which are set up but not provisioned form a set of <u>inactive virtual circuits which cannot be used</u>."

Thus, the combination of sending an acceptance message indicating that all the requested virtual circuits are set up, while provisioning only some of the requested virtual circuits is neither taught nor reasonably suggested by Gupta. Accordingly claim 95 is independently allowable.

Claims 99-102 depend from claim 95 and are thus allowable at least for the reasons noted above with respect to claim 95. Claims 139 and 140 depend from claim 135 and are allowable at least for the reasons noted above with respect to claim 135.

Currently amended claim 99 is independently allowable over Gupta in reciting that, "... completing provisioning of said at least one of said not-yet-provisioned virtual circuits in response to receiving said second *signaling* message..." (***Emphasis Added***).

The remaining claims presented for consideration are also allowable for one or more of the reasons noted above.

Thus all the objections and rejections are believed to be overcome and the application is believed to be in condition for allowance. The Examiner is invited to telephone the undersigned representative at 707.356.4172 if it is believed that an interview might be useful

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for any reason.

Respectfully submitted,
/Narendra Reddy Thappeta/
　　　　Signature

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